Rec. West. Aust. Mus. 1981, 9 (2): 227-233

A REVISION OF THE *LIASIS OLIVACEUS* SPECIES-GROUP (SERPENTES: BOIDAE) IN WESTERN AUSTRALIA

L.A. SMITH*

ABSTRACT

Three species and subspecies representing the *Liasis olivaceus* species-group in Western Australia, namely *Liasis mackloti* (Duméril and Bibron), *L. olivaceus olivaceus* Gray and *L. olivaceus barroni* subsp. nov., are described and their distribution is mapped.

INTRODUCTION

This is the second of three papers dealing with the pythons of Western Australia. The first (Smith 1981) revised the genera *Aspidites* and *Python*. This revision of the *Liasis olivaceus* species-group is based on 36 specimens in the Western Australian Museum: *Liasis mackloti* (8), *L. olivaceus olivaceus* (20) and *L. olivaceus barroni* (8). The third paper (Smith in prep.), will be expanded to provide an Australia-wide revision of the *Liasis childreni* species-group.

Methods of obtaining counts and measurements are as in Smith (1981).

Nomenclature follows McDowell (1975).

SYSTEMATICS

Genus *Liasis* Gray, 1842

See McDowell (1975: 31) for synonomy and diagnostic characters.

Remarks

After transferring the Amethyst Python to *Python*, McDowell (*supra cit.* pp. 31 and 59) divided *Liasis* into two species-groups: the *Liasis olivaceus* species-group comprising *L. olivaceus* Gray, 1842, *L. mackloti* (Duméril and Bibron, 1844) and *L. papuensis* Peters and Doria, 1878; and the *Liasis boa* group comprising *L. albertisii* Peters and Doria, 1878, *L. boa* (Schlegel, 1837) and *L. childreni* Gray, 1842 (McDowell *supra cit.* p. 32), although later (p. 33) he wrote, 'the Australian *Liasis childreni* is a highly peculiar form, perhaps worthy of being placed in a third group of the genus'. I agree that *L. childreni* warrants a group of its own; moreover it comprises at least two species (Smith in prep.).

* Department of Ornithology and Herpetology, Western Australian Museum, Francis Street, Perth, Western Australia 6000.

Australian mainland *Liasis* can thus be placed in one or other of two species-groups: the *Liasis olivaceus* group comprising *L. olivaceus olivaceus*, *L. olivaceus barroni* and *L. mackloti* which are large pythons (up to 550 cm total length), lack dorsal pattern and have one (occasionally two) loreals. McDowell (*supra cit.* pp. 32 and 33) discusses cranial, dental and other scale characters for this group. Species in the *Liasis childreni* (*recte gilberti*) group are relatively small (up to 150 cm total length) and have at least some indication of dorsal colour pattern and more numerous (up to about 20) irregular-shaped loreals.

Liasis mackloti (Duméril and Bibron, 1844)

See McDowell 1975: 34 for synonomy.

Diagnosis

Distinguished from *Liasis olivaceus* by having fewer midbody scale rows (45-48 v. 58-72), fewer ventrals (271-286 v. 321-411) and fewer subcaudals (72-89 v. 96-119).

Description

Largest accurately measured specimen (R14138) has a total length of 1240 mm (tail 24.0% of SVL). Cogger (1979) gives its length as up to about 3 m. Head 1.7-2.2 times as long as wide (N 5, mean 1.95).

Rostral 1.1-2.0 as wide as high (mostly about 1.25). Two pairs of prefrontals, anterior pair always in contact; posterior pair separated, usually by the larger anterior prefrontals. One loreal. One preocular. Postoculars 2 (50% of specimens), 3 (33% of specimens) or 4 (17% of specimens) (N 14, mean 2.7). Anterior temporals 3 (58% of specimens), 4 (33% of specimens) or 5 (9% of specimens) (N 14, mean 3.4). Upper labials 11 (66.6% of specimens) or 12 (33.4% of specimens) (N 14, mean 11.5), usually fifth and sixth entering orbit, always an oblique pit on the first and sometimes the second. Lower labials 15 (17% of specimens), 16 (50% of specimens) or 17 (33% of specimens) (N 12, mean 16.2), with 3-5 pits on labials 8-13.

Ventrals 271-286 (N 6, mean 279.2), subcaudals 72-89 (N 6, mean 80.8), mostly divided. Ventrals plus subcaudals 346-375 (N 5, mean 360.4). Scale rows at midbody 45-48 (N 6, mean 45.6), at neck 39.42 (N 6, mean 40.2, decreasing by 4-9), and at tail 27-30 (N 6, mean 28.3, decreasing by 16-19).

Back with an oily blue-grey sheen. Belly yellow, especially anteriorly. Contrast between dorsal and ventral coloration more distinct than in forms of *L. olivaceus*.

Distribution

In Western Australia only in the Kimberley Division.

Fig. 1: Location of specimens of *Liasis mackloti* examined.

Remarks

The *Liasis mackloti* listed for St Andrew Island (Smith and Johnstone 1979) is an *L. olivaceus olivaceus.*

Material Examined

Kimberley Division: Kalumburu (13882, 42796); Drysdale River National Park in 15°16′S, 126°43′E and 15°03′S, 126°44′E (50699, 50550); 5 km E of Old Doongan HS (50979); Point Torment (58559); Derby (52132); Broome (14138).

Northern Territory: Darwin (10477); Fogg Dam, Darwin (47687-88); Rapid Creek, Darwin (53777); 32 km NW of Mt Roper (32059); Millingimbi (13529-30); Oenpelli (52111).

Queensland: Cairns (10695).

Liasis olivaceus olivaceus Gray, 1842

Liasis olivaceus Gray, 1842, Zool. Misc.: 45. Type locality: Port Essington (Northern Territory).

Diagnosis

Distinguished from *L. mackloti* by having more midbody scale rows (61-72 v. 45-48) and more ventrals (321-377 v. 271-286). Distinguished from

L. olivaceus barroni by having more midbody scale rows (61-72 v. 58-63) and fewer ventrals (321-377 v. 374-411).

Description

Largest accurately measured specimen 2515 mm in total length (tail 15.4% of SVL). Head 1.6-2.1 times as long as wide (N 18, mean 1.9).

Rostral 1.1-2.0 (mostly about 1.25) as wide as high. Two pairs of prefrontals, anterior pair the larger and always in contact. Posterior pair usually separated by a small scale, sometimes in contact, occasionally separated by the frontal. One (89.5% of specimens) or 2 loreals. One preocular. Postoculars 3 (5% of specimens), 4 (42% of specimens), 5 (42% of specimens) or 6 (11% of specimens) (N 36, mean 4.6). Anterior temporals 4 (3% of specimens), 5 (25% of specimens), 6 (33% of specimens), 7 (3% of specimens) or 8 (3% of specimens) (N 24, mean 4.6). Six specimens had the anterior temporals fragmented into many small scales. Upper labials 12 (12% of specimens), 13 (26% of specimens), 14 (47% of specimens) or 15 (15% of specimens) (N 34, mean 13.6), always an oblique pit on the first and sometimes the second, seventh to ninth entering orbit (29% of specimens), sixth and seventh (25% of specimens), seventh and eighth (21% of specimens), sixth to eighth (18% of specimens) and the seventh (7% of specimens), the last condition caused by the pinching off of the top of the eighth labial, this fragment being counted as a postocular. Lower labials 18 (12% of specimens), 19 (9% of specimens), 20 (32% of specimens), 21 (35% of specimens) or 22 (12% of specimens) (N 34, mean 20.2), with 4-7 (mostly 5 or 6) pits in labials 9-19 commencing in labials 12 or 13 in 63.0% of specimens.

Ventrals 321-377 (N 19, mean 361; only 1 specimen with fewer than 355). Subcaudals 96-119 (N 18, mean 106.5), mostly divided. Ventrals plus subcaudals 420-483 (N 17, mean 468.5); only 1 specimen with fewer than 461). Scale rows at midbody 61-72 (N 19, mean 66.0), at neck 48-59 (N 14, mean 53.5, decreasing by 3-18), and at tail 31-38 (N 15, mean 34.9, decreasing by 26-41).

Distribution

In Western Australia the Kimberley Division south to Lake Argyle in the east and Mt Anderson in the west.

Remarks

The only conclusive data for the *'Liasis olivaceus?'* listed by Fry (1914: 190) are the ventral and subcaudal counts (357 + 101) and scale rows (56-64) which places the specimen with *L. olivaceus olivaceus*. The other characters used have been shown, in this paper and elsewhere, to be too variable for diagnosis. I cannot locate the specimen.

Material Examined

Kalumburu (28044-46, 28048, 54334); Crystal Creek (56233); Mitchell Plateau (51043); Kimberley Research Station (11978); Lake Argyle (59974-75, 60108); Prince

Regent River Reserve in 15°28'S, 124°29'E (47274); Heywood I. (41507-08); St Andrew I. (54463); Augustus I. (64944); 11 km S of Lombadina (58816); Coulomb Point (40280); Mt Anderson (R28047).

Northern Territory: Katherine (24934-35); 27 km W of Katherine (53767).

Liasis olivaceus barroni subsp. nov.

Holotype

R55384, a juvenile collected at Tambrey, Western Australia, in 21°35'S, 117°34'E by W.H. Butler on 7 July 1964.

Paratypes

North-west Division: Bamboo Creek (33420); Woodstock (54378); Marandoo (60708); 16 km from Nanutarra (24920); Paraburdoo (58935); Pipe Springs, 16 km W of Newman (54617); Prairie Downs (17694).

Diagnosis

Distinguished from nominate *Liasis olivaceus* by having fewer midbody scale rows (58-63 v. 61-72) and more ventrals (374-411 v. 355-377).

Description

Head 1.5-2.3 times as long as wide (N 17, mean 1.7).

Rostral 1.25-2.0 times as wide as high. Internasals sometimes separated by a small median scale. Two pairs of prefrontals, anterior pair always the larger, posterior pair either in contact or separated by a small median scale or the frontal. Loreals 1 (50% of specimens) or 2 (N 16). Preoculars 1 (34% of specimens) or 2 (N 14, mean 1.7). Postoculars 3 (21% of specimens), 4 (36% of specimens), 5 (36% of specimens) or 6 (7% of specimens) (N 14, mean 4.2). Anterior temporals 5, or divided into many small scales. Upper labials 12 (17% of specimens), 13 (17% of specimens), 14 (58% of specimens) or 15 (8% of specimens) (N 12, mean 13.5) with an oblique pit on the first and sometimes the second. Seventh to ninth labials entering orbit (37.5% of specimens), sixth to eighth (25%) and seventh and eighth (25%) and ninth and tenth (12.5%). Lower labials 20 (8% of specimens), 21 (50% of specimens), 22 (25% of specimens) or 23 (17% of specimens) (N 12, mean 18.3) with 5 or 6 pits on labials 10-18 commencing on labials 12 or 13 in 66% of specimens.

Ventrals 374-411 (N 8, mean 392.2). Subcaudals 99-112 (N 7, mean 105), mostly divided. Ventrals plus subcaudals 486-515 (N 7, mean 496). Scale rows at midbody 58-63 (N 8, mean 60.6); at neck 46-55 (N 4, mean 53, decreasing by 5-13) and at tail 33-36 (N 5, mean 34.2, decreasing by 26-30).

Specimens preserved in alcohol show no differences in colour between nominate *L. olivaceus* and *L. olivaceus barroni.*

Distribution

The Pilbara Region from Tambrey in the north to Paraburdoo in the south and Newman in the east to Nanutarra in the west.

Fig. 2: Location of specimens of *Liasis olivaceus* and *Liasis olivaceus barroni* examined.

Remarks

Glauert's (1957) record of *L. olivaceus* from the Murchison district was presumably based on R2760 (a specimen from the South Perth Zoological Gardens purported to have come from Cue). However it has 355 ventrals and 68 midbody scale rows and could only have come from within the range of *L. o. olivaceus*.

Serventy (1952) measured a specimen of *L. o. barroni* from Hooley with a total length of 370 cm and weight of 9.3 kg. Whitlock (1923) reports specimens up to 550 cm.

This subspecies is named after Mr Gregory Barron of the Western Australian Museum in recognition of his services to Western Australian herpetology.

ACKNOWLEDGEMENTS

I thank Dr G.M. Storr, Head, Department of Ornithology and Herpetology, Western Australian Museum, for his guidance and comments on the manuscript.

REFERENCES

COGGER, H.G. (1979). *Reptiles and amphibians of Australia.* H.A. Reed, Sydney. (Revised edition).

FRY, D.B. (1914). On a collection of reptiles and batrachians from Western Australia. *Rec. West. Aust. Mus.* 1: 174-210.

GLAUERT, L. (1957). *A handbook of the snakes of Western Australia* (2nd edition). West. Aust. Naturalists' Club, Perth.

McDOWELL, S.B. (1975). A catalogue of the snakes of New Guinea and the Solomons, with special reference to those in the Bernice P. Bishop Museum. Part II. Anilioidae and Pythoninae. *J. Herp.* 9: 1-80.

SERVENTY, D.L. (1952). Size of the Rock Python. *West. Aust. Nat.* 3: 171-172.

SMITH, L.A. and JOHNSTONE, R.E. (1979). Amphibians and reptiles *in:* The islands of the North-west Kimberley, Western Australia. *Wildl. Res. Bull. West. Aust.* No. 8. 31-33.

SMITH, L.A. (1981). A revision of the python genera *Aspidites* and *Python* (Serpentes: Boidae) in Western Australia. *Rec. West. Aust. Mus.* 9 (2): 211-226.

SMITH, L.A. (in prep.). A revision of the *Liasis gilberti* species-group (Serpentes: Boidae).

WHITLOCK, F. (1923). A trip to the Fortescue River and Hamersley Ranges, North-west Australia. *Emu* 22: 259-273.

Received 22 September 1980 Accepted 22 April 1981 Published 20 July 1981